

CLAIMS

What is claimed is:

1. A telecommunication terminal device for use with a public telephone network to transmit and receive telecommunication signals and is capable of connecting external terminal devices of different types with the public telephone network, the telecommunications terminal device comprising:

a network connection unit having at least a first pin and a second pin to which the public telephone network is connected, and a third pin and a fourth pin through which a first external terminal device of a first type is connected to the first and the second pins according to a first switching unit;

the first switching unit to selectively connect the first external terminal device and a second external terminal device of a second type other than the first type with the public telephone network;

a first external terminal connection unit having at least a fifth pin and a sixth pin through which the second external terminal device is connected to the first and the second pins according to the first switching unit; and

a feeding circuit connected to the first and the second pins to keep a current provided from the public telephone network flowing.

2. The telecommunication terminal device according to claim 1, further comprising a second switching unit to selectively connect the first pin of the network connection unit to the third pin and to the feeding circuit.

3. The telecommunication terminal device according to claim 1, further comprising a transmission line which connects the feeding circuit and the second pin, wherein the first

switching unit selectively connects the fourth pin and the sixth pin with the transmission line.

4. The telecommunication terminal device according to claim 2, further comprising a transmission line which connects the feeding circuit and the second pin, wherein the first switching unit selectively connects the fourth pin and the sixth pin with the transmission line.

5. The telecommunication terminal device according to claim 3, further comprising an external terminal detection unit connected between the first switching unit and the transmission line and which detects whether telecommunication signals are transmitted and received between the second external terminal device and the public telephone network.

6. The telecommunication terminal device according to claim 4, further comprising an external terminal detection unit connected between the first switching unit and the transmission line and which detects whether telecommunication signals are transmitted and received between the second external terminal device and the public telephone network.

7. The telecommunication terminal device according to claim 1, further comprising a k^{th} external terminal connection unit having at least an i^{th} pin and an $(i+1)^{\text{th}}$ pin through which a j^{th} external terminal device is connected with the fifth and the sixth pins, wherein i is a positive integer greater than 6, j is a positive integer greater than 2, and k is a positive integer greater than 1.

8. A method of using a telecommunication terminal device comprising:
determining whether a first external terminal device is selected;
if there is a determination that the first external terminal device is selected, allowing telecommunications between a public telephone network and the first external terminal device;

if there is a determination that the first external terminal device is not selected,
determining whether a second external terminal device is selected; and

if there is a determination that the second external terminal device is selected and that
the first external terminal device is not selected, allowing telecommunications between the
public telephone network and the second external terminal device.

9. The telecommunication terminal device according to claim 1, wherein the first
switching unit selectively establishes a parallel connection between the public telephone
network and one of the first and second external terminal devices, and selectively establishes a
serial connection between the public telephone network and the other one of the first and
second external terminal devices.

10. The method of claim 8, wherein the allowing telecommunications between the
public telephone network and the first external terminal device comprises establishing one of a
serial connection and a parallel connection between the first external terminal device and the
public telephone network.

11. The method of claim 8, wherein the allowing telecommunications between the
public telephone network and the second external terminal device comprises establishing one of
a serial connection and a parallel connection between the second external terminal device and
the public telephone network.

12. The method of claim 11, wherein the allowing telecommunications between the
public telephone network and the first external terminal device comprises establishing the other
one of the serial and the parallel connections between the first external terminal device and the
public telephone network.

13. The method of claim 12, wherein:

the establishing the one of the serial and the parallel connections between the second external terminal device and the public telephone network comprises switching a switching unit of a terminal to which the second external terminal device is connected to a first state, and

the establishing the other one of the serial and the parallel connections between the first external terminal device and the public telephone network comprises switching the switching unit of the terminal to which the first external terminal device is connected to a second state other than the first state.

14. The method of claim 8, further comprising indicating to a user that the second external terminal device is connected to the public telephone network.

15. The method of claim 8, further comprising opening a connection between the public telephone network and one of the first external terminal device and the second external terminal device so as to disconnect an established connection between the public telephone network and the one of the first external terminal device and the second external terminal device.

16. The method of claim 13, further comprising opening a connection between the public telephone network and one of the first external terminal device and the second external terminal device so as to disconnect an established connection between the public telephone network and the one of the first external terminal device and the second external terminal device regardless of the first and second states of the switching unit.

17. A telecommunication terminal device for use with a public telephone network and

external terminal devices of different types, the telecommunications terminal device comprising:

a network connection unit through which a connection to the public telephone network is maintained;

a first external terminal connection unit which serially connects a serial-type external terminal device to the public telephone network using the network connection unit according to a first switching unit being in a first state;

a second external terminal connection unit which connects a parallel-type external terminal device in parallel to the public telephone network using the network connection unit according to the first switching unit being in a second state; and

the first switching unit electrically connected between the network connection unit and the first and second external connection units such that, according to the first and second states, the serial-type external terminal device and the parallel-type second external terminal device are connected with the public telephone network.

18. The telecommunication terminal device of claim 17, further comprising a connection unit comprising the network connection unit and one of the first external terminal connection unit and the second external terminal connection unit.

19. The telecommunication terminal device of claim 17, wherein:
the network connection unit includes first and second pins,
the first external terminal connection unit comprises third and fourth pins, and
the first switching unit is disposed in a connection between one the first and second pins and one of the third and fourth pins so that, when in the first state, the serial connection is formed, and when in the second state, the serial connection is not formed.

20. The telecommunication terminal device of claim 17, wherein:

the network connection unit includes first and second pins,
the second external terminal connection unit comprises third and fourth pins, and
the first switching unit is disposed in an electrical pathway between one the first and second pins and one of the third and fourth pins so that, when in the first state, the parallel connection is formed, and when in the second state, the parallel connection is not formed.

21. The telecommunication terminal device of claim 19, wherein:
the second external terminal connection unit comprises fifth and sixth pins, and
the first switching unit is disposed in an electrical pathway between one the first and second pins and one of the fifth and sixth pins so that, when in the second state, the parallel connection is formed, and when in the first state, the parallel connection is not formed.

22. The telecommunication terminal device of claim 17, further comprising a second switching unit disposed in an electrical pathway between one of the first and second external terminal devices and the network connection unit so that, when in a first state, the electrical pathway is disconnected, and when in a second state, the electrical pathway is connected.

23. The telecommunication terminal device of claim 19, further comprising a second switching unit disposed in an electrical pathway between one the first and second pins and one of the third and fourth pins so that, when in the first state, the serial connection is opened and when in a second state, the serial connection is closed.

24. The telecommunication terminal device of claim 17, further comprising a detection unit which detects which one of the first and second external terminal devices is transmitting signals across the public telephone network.

25. A method of using a telecommunication terminal device comprising:

if a first external terminal device of a first type is to be connected through the telecommunication terminal device to a public telephone network, establishing a first type of connection between the public telephone network and the first external terminal device corresponding to the first type of the first external terminal device; and

if a second external terminal device of a second type other than the first type is to be connected through the telecommunication terminal device to the public telephone network, establishing a second type of connection between the public telephone network and the second external terminal device corresponding to the second type of the second external terminal device,

wherein the first external terminal device cannot be connected using the second type of connection and the second external terminal device cannot be connected using the first type of connection.

26. The method of claim 25, wherein the first type of connection is a serial connection and the second type of connection is a parallel connection.